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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,376	11/21/2001	Koichi Okada	Q66493	1313

7590 01/09/2007

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EXAMINER	
LAM, ANDREW H	
ART UNIT	**PAPER NUMBER**
2625	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/989,376	OKADA, KOICHI	
	Examiner	Art Unit	
	Andrew H. Lam	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

DOUGLAS Q. TRAN
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: ____.

DETAILED ACTION

- This action is responsive to the following communication: an RCE filed on 12/05/06.
- Claims 1-23 are pending in the present application. Claims 20-23 are new.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 5-10, 12-16, and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson (U.S. Patent No. 5,140,340) hereinafter Stephenson in view of Ui et al. (U.S. Patent 6,340,984) hereinafter Ui.

Regarding claim 1, Stephenson discloses an image recording apparatus (fig. 1, printer 7) comprising: an image recording unit (fig. 1, print head 8) which records an image (col. 5, lines 3-5) on an image recording material (fig. 1, print media 12); a transporting unit (fig. 1, transport platen 10) which transports said image recording material whose shape has at a least one side (see fig. 1) in a predetermined transporting direction (col. 4, lines 15-25); a position detecting unit (fig. 1, position senor 16) for said image recording material which detects a position of said image recording material in said at least one side (col. 4, lines 24-26, detect the two edges) along said predetermined transporting direction (see figs. 1 and 2).

Stephenson does not disclose expressly a reference storage unit storing a corresponding relationship between the position detecting unit and the image recording unit; and an image recording position correcting unit which allows said image recording unit to correct an image recording position for said image recording material by referencing the corresponding relationship stored in the reference storage unit and based on result of detection of said position of said image recording material in said at least one side by said position detecting unit so that said image can be recorded correctly at a position to be recorded on said image recording material transported as it is by said transporting unit without correcting said detected position of said image recording material; wherein a desired image is recorded on said image recording material at the corrected image recording position by said image recording unit.

Ui discloses a reference storage unit storing a corresponding relationship between the position detecting unit and the image recording unit (col. 4, lines 35-45 and col. 5, line 58 thru col. 6, line 11); and an image recording position correcting unit which allows said image recording unit to correct an image recording position for said image recording material by referencing the corresponding relationship stored in the reference storage unit and based on result of detection of said position of said image recording material in said at least one side by said position detecting unit so that said image can be recorded correctly at a position to be recorded on said image recording material transported as it is by said transporting unit without correcting said detected position of said image recording material (col. 4, lines 35-45 and lines 56-67); wherein

a desired image is recorded on said image recording material at the corrected image recording position by said image recording unit (figs. 6 and 7, col. 6, lines 50-60).

Stephenson and Ui are combinable because they are from a similar field of endeavor of skew correction of print data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a reference storage unit storing a corresponding relationship between the position detecting unit and the image recording unit as taught by Ui with the dislocation of the print media. The motivation for doing so would have been to correct the inclination angle and shift of the print media without physically shifting the print media (col. 5, lines 60-67, see fig. 5(a)-5(b)).

Regarding claim 2, the combination (Stephenson and Ui) discloses an image recording apparatus according to claim 1, said position detecting unit detecting an inclination (Stephenson, see figs. 2 and 4) with relative to said transporting direction of said material during transporting from a plurality of portions along said side obtained using said position detecting unit (Stephenson, col. 5, lines 41-68) and said image recording position correcting unit correcting a present position of said image recording material depending on said inclination (Stephenson, col. 6, lines 7-10).

Regarding claim 3, the combination (Stephenson and Ui) an image recording apparatus according to claim 1, said position detecting unit having a laser length measuring unit (Stephenson, col. 6, lines 1-5).

Regarding claim 4, the combination (Stephenson and Ui) an image recording apparatus according to claim 1, said position detecting unit having a transmission-type

detecting unit or a reflection-type optical detecting unit (Stephenson, col. 6, lines 55-60).

Regarding claim 6, the combination (Stephenson and Ui) an image recording apparatus according to claim 1, said image recording material being a rectangular (Stephenson, see fig. 2, print media 12) and/or flexible film.

Regarding claim 7, the combination (Stephenson and Ui) an image recording apparatus according to claim 1 being a thermal printer (Stephenson, col. 4, line 6) or a laser printer.

Regarding claim 20, the combination (Stephenson and Ui) the image recording apparatus according to claim 1, wherein the image recording position correcting unit corrects the image recording position by referencing sample detection patterns and corresponding ranges for output, stored in the reference storage unit (col. 5, lines 57-67).

Regarding claim 21, the combination (Stephenson and Ui) the image recording apparatus according to claim 1, wherein the image recording position correcting unit compares the detected position of said image recording material with sample detection patterns stored in the reference storage unit, selects output ranges corresponding to a sample detection pattern that matches the detected position, and corrects image recording position for said image recording material based on the selected output ranges (col. 6, lines 23-60).

Claims 5, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination (Stephenson and Ui) in view of Taniguchi et al (U.S. Patent 6,385,944) hereinafter Taniguchi.

Regarding claims 5, 11 and 17, the combination discloses (Stephenson and Ui) an image recording apparatus according to claim 1, for detecting and correcting the skew angle of the image recording material in an image forming apparatus (see figs. 1 and 2).

The combination (Stephenson and Ui) does not disclose expressly that the position detecting unit having a potentiometer provided with a lever capable of rotating around a shaft.

Taniguchi discloses a potentiometer with a lever for a printer. The potentiometer monitors the position that is, the width of the paper roll unit (col. 5, lines 35-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Stephenson as per teaching of Taniguchi because of the following reason: by using a potentiometer with a lever to detect changes to the position of an image recording material; a less costly position measuring device that is easier to implement in the image recording is achieved. This is more cost effective than using an optical sensor and light source combination which has more circuitry and is more expensive.

Regarding claims 8-10, 12-16, 18-19 and 22-23, the claims recite limitations that are similar and in the same scope of invention as to those in claims 1-4, 6-7 and 20-21 above and combination thereof; therefore, claims 8-10, 12-16, 18-19 and 22-23, are

rejected for the same rejection rationale/basis as described in claims 1-4, 6-7 and 20-21.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew H. Lam whose telephone number is (571) 272-8569. The examiner can normally be reached on M-F (9:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrew Lam 1/3/07

DOUGLAS Q. TRAN
PRIMARY EXAMINER